DOCUMENT RESUME

ED 158 651 HE 010 347

AUTHOR Suter, Larry E.
TITLE Trends in College Enrollment by Family Income for Regions of the United States.
PUB DATE 77
NOTE 8p.; Not available in hard copy due to marginal legibility of original document

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS *College Attendance; College Students; *Economic Factors; *Enrollment Influences; *Family Income; Geographic Regions; Higher Education; High School Graduates; *School Statistics; Social Influences; *Socioeconomic Influences; Statistical Analysis; Surveys

ABSTRACT

This assessment of college enrollment is based on data from the 1970 and 1976 October Current Population Surveys on college participation rates for 18-24 year olds by income level for four regions. In all regions, high school graduation rates were higher for persons in families with highest income levels. College attendance is more likely than high school attendance to be dependent upon financial support from the family. Neither variations in costs of living nor the racial composition of regions were strong determinants of college participation rates within equivalent income categories. Only small differences were found between major regions of the country. College attendance was determined by the ability to complete high school and attributes associated with family income level. Statistical data are appended. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED158651

TRENDS IN COLLEGE ENROLLMENT BY FAMILY INCOME FOR REGIONS OF THE UNITED STATES

Larry E. Suter

Bureau of the Census

BEST COPY AVAILABLE

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

HE 010 347

HE

TRENDS IN COLLEGE ENROLLMENT BY FAMILY INCOME FOR REGIONS OF THE UNITED STATES

Larry E. Suter, Bureau of the Census

Many studies of the determinants of college participation have established that families of higher educational and income levels have been more likely than those of families with lower socioeconomic backgrounds to send their offspring to college, regardless of their ability levels (Condition of Education, 1977 edition). This relationship persists despite increasing amounts of federal and state funding available to aspiring college students in the 1960's and 70's. Higher income of families is related to several factors which affect the rate of college enrollment of college age members. For example, high income families are probably more likely to provide a home environment which encourages reading, the development of intellectual skills, and the selection of occupations which require college education. In general, high income families are probably more likely to develop the attitudes and values in their offspring that make a college education seem necessary, as well as supply the money to support a student through the expensive college years (see Jencks, Inequality, p. 138). Attempts to separate the determinants of college attendance have not successfully divided the direct effect of family income from personal motivation and other factors that determine college entrance. However, all studies agree that level of family income in the family of origin influences both the amount and the quality of higher education received by family members. To the extent that money is a direct factor in the decision to attend college, the opportunity to attend college would vary within the United States as the cost of living and the costs of education varies between regions. The purpose of this paper is to assess the level of differences in college enrollment rates between regions by income level of the family.

Variation in college level participation by region and changes in participation rates by income level during the 6 years since 1970 may illustrate the influence (or lack of it) of governmental programs on equalizing college participation by income groupings. Federal programs provide assistance to college students unadjusted for variations in regional cost of living. The regional patterns may also reflect, of course, cultural and opportunity differences between region, as well as the cost of attending college. This paper will not be able to supply all the necessary evidence to separate each of the causative effects (money, motivation, values, or home encouragement) known to be determinants of college participation in each region, but these data will provide a solid basis upon which to discuss the actual meaning of differences between regions.

This paper will present some new statistical data from the October Current Population Surveys for 1970 and 1976 on college participation rates of persons 18 to 24 years old by family income level in four U.S. regions. The family income measure from the CPS has been adjusted to 1967 dollars to preserve the relationship of income categories to each other (the BLS cost of living index for the U.S. was used as the deflator).

Before examining the measures of college participation, two characteristics of the population represented by the survey design which may affect generalization of the results should be outlined. The October CPS is representative of only the civilian population excluding inmates of institutions. Although the universe represents nearly all women of college age, there have been major changes in the CPS coverage for men following the decline in the Armed Forces population since 1970. The proportion of all men 18 to 24 years old not represented by this universe because they were in the Armed Forces was 15 percent in 1970 and decreased to 8 percent in 1976 (for men 20 and 21 years old, the decline was a dramatic 23 percent to 9 percent). The effect of the decrease in proportion of men in the Armed Forces has been to reduce the proportion of civilian men enrolled in college. Thus any analysis of changes in enrollment rates for men during the period which encompasses the Vietnam War Era must consider the possible confounding effects of the changing population base. The changes in the proportion of men who were inmates of institutions has not been sufficient to affect any of the enrollment rates and can be safely ignored.

Another issue in the use of CPS data is the correct specification of the universe reporting family income, and thus, a proper accounting for the amount of income available to the college age person. College students living away from home who are considered by their family as household members (i.e. that the sample address is the usual place of residence for that person) are reported as members of their parent's family and thus it is their parent's income which is reported as available to them. However, the married 18- to 24-year-old or the student who lives away from home permanently (even though both of these may receive financial assistance from their parents) report themselves in their own household and thus report only that income received by members of this household. A "dependent family member" is defined for purposes of the analysis of the October CPS as an 18- to 24-year-old relative of the household head (except the wife). In effect, of course, most dependent family members are the sons or daughters of a family head, although some may be other relatives living temporarily in a household. Dependent family members accounted for 52 percent of all 18- to 24-year-olds in 1975, which is 59 percent of men and 47 percent of women (see Current Population Reports, P-20, No. 303). Married persons account for 27 percent of men and 12 percent of women; and primary individuals account for 14 percent of men and 12 percent of women in this age. Thus, the family income of the primary family of a large portion of college students is not reported in the October CPS. To avoid confusing reported household income with the true level of income available to potential college students, the analysis will be restricted to dependent family members; for that group there is a stronger reason to believe that the family income

HE 010 347

of parents reported in the survey is the source of financial support for their college attendance.

Data Analysis

Graduation from high school is a necessary step to college attendance; therefore the regional and family income differences in high school graduation will be examined before turning to college enrollment. High school graduation rates for dependent family members 18 to 24 years old in the United States had reached 82 percent by 1976, only a 2 percentage point increase since 1970 according to the October Current Population Survey (table 1). The lowest level of high school graduation was in the Southeastern States (78 percent) and the highest was in the Northeastern States (86 percent).1/

The income level of the family strongly affects the probability of high school graduation of dependent family members. The rates varied from around 57 percent at the lowest level to around 95 percent at the highest income level. However, the greater change occurs in the income levels below $10,000 (1967 dollars) than above that range. In all regions, high school graduation rates were higher for persons in families with highest income levels; in fact, the rates are very similar throughout all regions at every income level (see figure 1).

Low high school graduation rates in 1976 for the lowest income groupings are probably not directly due to the lack of money in the family since public high schools require few funds for attendance. More likely, they result from cultural factors in the family that determine the attitudes and values of its members toward education. The lack of large differences in high school graduation rates among the regions, within similar income categories, suggests that the abilities or attitudes toward completing high school are similar in all regions, but that only the lowest income families do not, or cannot, encourage their dependent members to always complete high school.

Attendance in college, on the other hand, is contingent on high school graduation and is much more likely to be dependent upon the ability of the family to support a student in college. This dependence on income is apparent in the relationship of college enrollment rates for each family income level shown in table 1 for the four regions. Unlike the slope of the lines for high school graduation in figure 1, which rise sharply in the lowest portion of the income distribution, college enrollment increases with income in almost a perfect linear fashion in each region. Regional differences in the effect of family income on college attendance is best measured by the combination of those enrolled and those who have already completed some college. Many persons, especially at the upper age ranges, have completed some college although they have remained dependent family members. Figure 2 indicates the enrollment rates by income for those enrolled in 1976 and table 1 shows the combined enrollment rates for those enrolled or who had already completed some college.

College participation rates by family income do not indicate any strong evidence of differential opportunity to attend college between the various regions of the country. In fact, the differences in participation rates, once income level of family is considered, are not as great as might be expected. There is clear evidence that dependent persons living in the West are more likely to attend college. However, even this statement is not true for every income level (the highest income level is somewhat ambiguous, see figure 2). It is likely that the large junior college system of California is responsible for the higher participation rates in that State.2/

To some extent the cost of attending college might explain why the Western States have slightly higher participation levels than other regions. The average cost for attending college in the Western States3/ is lower than in other regions. However, the cost of living while in college is higher in that region, making the total cost of living for in-State students (about 80 percent of all students) slightly higher than in other regions. Average reported student tuition and living expenses as found in the October 1973 Current Population Survey are shown in the table below.

Table A.

Mean Student Expenses in College for Full-Time, In-State College Students by Region: October 1973

Region	Total	Living costs	Tuition	Books, transp., etc.
Northeast	$5,700	$4,200	$1,100	$400
North Central	$5,300	$4,100	$ 800	$400
South	$5,300	$4,300	$ 600	$400
West	$5,600	$4,900	$ 400	$300

Differences in cost of living between regions might also be responsible for some of the differences in college attendance rates, as suggested earlier in this paper. However, the evidence now available does not support that contention. An index of differences in cost of living in the areas of the United States is provided by the BLS Urban Family Budget (BLS release 77-369) which is an estimate of hypothetical annual family budgets for selected metropolitan areas. Assuming that the intermediate budget for a 4-person family reflects the constraints faced by families with college age members, an average of the cities was computed, assuming equal weights for cities. This somewhat crude measure shows that for the U.S. as a whole, the West is about the same as the U.S., the North Central is about 1 percent lower, and the Southern cities are about 3 percent lower than for the U.S.

Thus, the cost of tuition and expenses of college and not the cost of living has a greater apparent association with lower participation rates of middle income college age persons. Conclusions regarding the possible impact of college costs should not be too hastily accepted because not all of the factors that affect the costs of education or of living in each of the regions have been fully considered here. For example, differences in the number of public and private schools in each State and the number of students who attend college in another State, may affect the overall participation rates. Since college students are counted at the address of their

parents for the CPS, even though they may be attending college in another State, the actual costs of their schooling cannot be derived without detailed surveys of student costs.

The possibility that the college enrollment rates for persons at the lower income level in Southern States were low because of differences in enrollment rates of Whites and Blacks was examined. The overall enrollment rates for Black dependent family members is much lower than for Whites (see table 2). The income level of Blacks is also much lower than for Whites (see table 3). In fact, more than one-half of the 18- to 24-year-olds in families with incomes less than $5,000 living in the Southeastern region were Black (about 55 percent in 1976). The results show that the college enrollment of Blacks is about the same as for Whites in the same income grouping in the Southeastern region, and in the Northeast may even be higher. Thus, the income level and not the race of the family appears to be the major determinant in the participation levels of college age persons who are members of families in recent years. The fact that the participation rates for lower income persons in Southern States is especially low, while rates at higher income levels are very high, suggests that decisions other than availability of money, perhaps cultural values, are influencing the level of college participation in that region. Whether income level is so strongly related to college participation because of the implications of costs of college attendance or because of the values toward higher education in each income level cannot be adequately determined with these data, but the strength of the statistics suggest the strong importance of family regardless of region of residence or race.

This exercise in examining the relationship of family income to the college participation of its college age members has shown that only small differences exist between major regions of the country. Future studies of the reasons for variations in college attendance might be more fruitfully applied to specific State systems. Anderson and Bowman pointed out in their study of college attendance in 4 States that the variation in history of educational institutions and application of financial aid is so great between the States of the Union that a stronger understanding of variations in college attendance requires a comprehensive analysis of each State system. Information soon to be received from the Survey of Income and Education will establish, at least, whether the participation rates in college by dependent family members vary between States once level of income has been controlled by more than was found for the major regions. The conclusion of this paper must be that in all areas of the country two processes govern the level of college attendance of college age family members: the ability to complete high school and the attributes in the family that are associated with the level of income in that family. Neither the variations in costs of living nor the racial composition of region are strong determinants of participation rates within equivalent income categories. This study can provide only weak evidence that those areas with lowest participation rates are those in which the costs of public college may be higher.

FOOTNOTES

1/ See table 1 for a definition of "Southeastern" and "Northeastern" regions. In this table the Census Bureau definition of regions were not used. Instead, the combination of States used by the Bureau of Economic Analysis and the National Assessment of Educational Progress was employed in this table. Oklahoma and Texas are added to the West; Delaware, D.C., and Maryland are in the Northeast.

2/ Although, as Anderson, Bowman, and Tinto point out, the direction of the cause cannot be easily inferred. Possibly California's junior college system is not the cause of large college enrollments, but is a result of demand for higher education by the State population. C. Arnold Anderson, Mary Jean Bowman, and Vincent Tinto, Where Colleges Are and Who Attends: Effects of Accessibility on College Attendance. McGraw-Hill, New York: 1972. Either way, the level of higher education received by residents of California is possibly increased by the general availability of a low cost educational system.

3/ The regions in this table are comparable to the 1970 census definitions.

REFERENCES

C. Arnold Anderson, Mary Jean Bowman, and Vincent Tinto, Where Colleges Are and Who Attends: Effects of Accessibility on College Attendance. McGraw-Hill, New York: 1972.

Christopher Jencks, et al., Inequality: A Reassessment of the Effect of Family and Schooling in America. Basic Books, Inc., New York: 1972.

U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 303, "School Enrollment--Social and Economic Characteristics of Students: October 1975," Washington, D.C.

Table 1

College Enrollment of Primary Family Members 18 to 24 Years Old by Family Income: October 1976

(Numbers in thousands. Family income in 1967 constant dollars)

Year, region, and college participation	Total 18 to 24 years old	Under $3,000	$3,000 to $4,999	$5,000 to $7,499	$7,500 to $9,999	$10,000 to $14,999	$15,000 or more
1976							
U.S. Total	14,222	1,425	1,629	2,325	2,312	2,872	2,176
Percent:							
High school graduate	82.0	56.8	69.1	81.1	86.4	88.9	95.5
Enrolled in college	38.8	20.4	24.2	32.2	40.4	47.5	58.2
Not enrolled	43.2	36.4	44.9	49.0	46.1	41.4	37.3
Attended college 1+ yrs.	13.0	6.7	8.1	12.8	13.9	14.3	18.0
Northeast	4,160	293	433	720	708	859	669
Percent:							
High school graduate	84.8	56.0	75.5	84.9	87.6	89.5	96.6
Enrolled in college	39.0	20.1	28.9	31.3	40.1	46.9	54.4
Not enrolled	45.8	35.8	46.7	53.6	47.5	42.6	42.2
Attended college 1+ yrs.	14.8	9.9	9.0	12.9	14.5	15.7	21.2
Southeast	3,100	550	440	542	430	480	404
Percent:							
High school graduate	76.4	55.8	64.3	77.7	85.1	87.5	93.1
Enrolled in college	34.9	18.9	19.8	30.8	41.9	49.0	59.7
Not enrolled	41.4	36.9	44.5	46.9	43.3	38.5	33.4
Attended college 1+ yrs.	10.9	4.0	4.8	10.5	12.3	12.7	18.8
Central	3,763	239	385	590	660	828	650
Percent:							
High school graduate	84.4	64.4	68.1	80.8	86.4	89.0	96.5
Enrolled in college	39.0	24.7	21.0	32.9	37.6	43.8	58.3
Not enrolled	45.4	39.7	47.0	48.0	48.8	45.2	38.2
Attended college 1+ yrs.	12.4	7.1	8.6	13.4	12.6	12.4	16.5
West	3,199	344	372	474	512	655	504
Percent:							
High school graduate	80.8	53.5	67.5	80.8	86.1	88.7	94.6
Enrolled in college	41.9	19.8	26.9	34.6	43.2	50.8	61.9
Not enrolled	38.9	33.7	40.6	46.2	43.0	37.9	32.7
Attended college 1+ yrs.	13.5	7.0	10.5	14.8	16.8	15.6	15.3

Note: The total includes persons not reporting on family income, which is not shown separately. States are combined into the set of regions defined for use by the National Assessment of Educational Progress Program. The following States make up the National Assessment regions used in Table 1:

NORTHEAST: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

SOUTHEAST: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia.

CENTRAL: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

WEST: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Texas, Utah, Washington, Wyoming.

Table 2

Percent of 18- to 24-Year-Old Dependent Family Members Enrolled in College by Income, Region, and Race: 1970 and 1976

(Income in 1967 dollars)

Region and race	Persons (thousands)	Total percent enrolled	Under $3,000		$3,000 to $4,999		$5,000 to $7,499		$7,500 to $9,999		$10,000 or more	
			1970	1976	1970	1976	1970	1976	1970	1976	1970	1976
United States	(1976)	(1976)										
White	11,834	40.4	19.9	20.0	26.1	24.9	33.0	31.4	40.6	39.9	54.0	50.4
Black	1,990	28.1	15.2	20.2	19.4	22.1	25.5	33.9	31.4	40.3	35.9	53.2
Northeast												
White	3,611	39.4	19.7	17.0	27.2	28.1	32.7	30.7	37.1	39.1	49.5	49.8
Black	452	34.8	11.5	26.3	15.0	27.1	20.0	35.9	24.5	46.2	29.1	57.7
Southeast												
White	2,163	39.6	16.1	19.4	23.1	19.5	27.9	30.7	39.7	42.0	61.8	54.5
Black	885	22.7	15.1	17.4	17.8	20.3	26.7	30.2	42.1	38.6	21.7	46.5
Central												
White	3,344	40.3	25.4	24.5	27.0	23.9	34.4	32.2	39.9	37.7	51.0	50.2
Black	377	29.6	17.5	19.7	23.4	16.0	26.7	33.3	25.6	33.7	32.5	53.2
West												
White	2,716	42.6	18.8	19.7	27.1	26.8	36.2	32.2	47.1	42.4	61.0	56.4
Black	277	32.9	19.5	23.1	26.7	28.8	40.5	42.2	48.4	43.9	58.5	56.0

Note: Figures for Blacks are an average of survey data for 1975 and 1976, and 69, 70.

Table 3

Family Income Distribution of Dependent Family Members 18 to 24 Years Old by Region and Race: 1976

(Income in 1967 dollars)

Region and race	Persons (thousands)	Total percent enrolled	Under $3,000	$3,000 to $4,999	$5,000 to $7,499	$7,500 to $9,999	$10,000 or more
United States							
White	11,834	100.0	7.0	11.0	17.9	19.3	14.5
Black	1,990	100.0	33.9	24.4	19.9	11.2	10.6
Northeast							
White	3,611	100.0	5.2	10.1	18.9	20.1	45.7
Black	452	100.0	25.8	24.5	21.9	12.6	14.9
Southeast							
White	2,163	100.0	9.1	12.4	19.6	17.6	41.2
Black	885	100.0	42.8	25.1	17.3	8.8	6.1
Central							
White	3,344	100.0	5.5	9.5	17.3	20.4	47.3
Black	377	100.0	21.6	24.9	23.0	14.0	16.3
West							
White	2,716	100.0	7.8	10.5	13.1	14.7	35.4
Black	277	100.0	34.5	20.8	21.8	13.2	10.0

Note: Figures for Blacks are an average of survey data for 1975 and 1976.

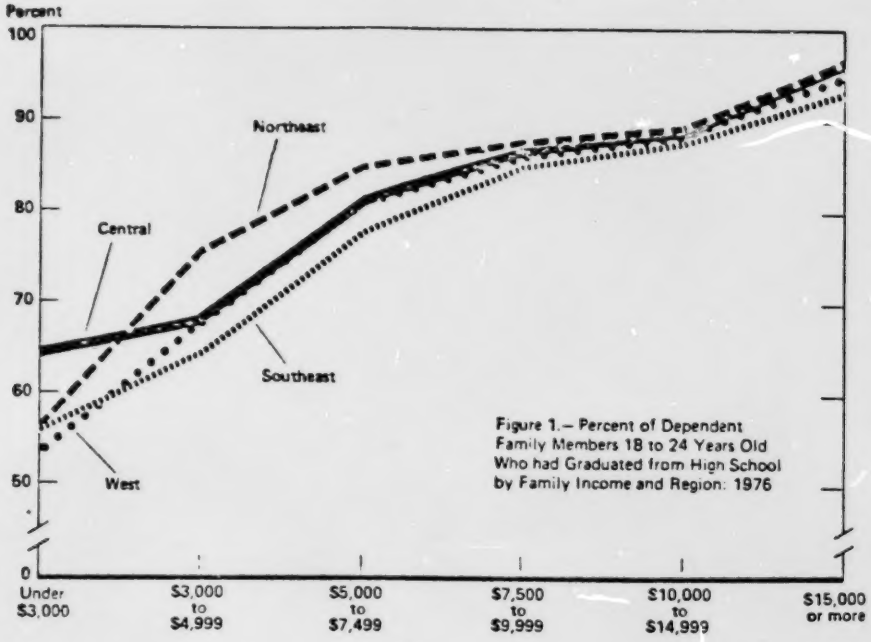

Figure 1.– Percent of Dependent Family Members 18 to 24 Years Old Who had Graduated from High School by Family Income and Region: 1976

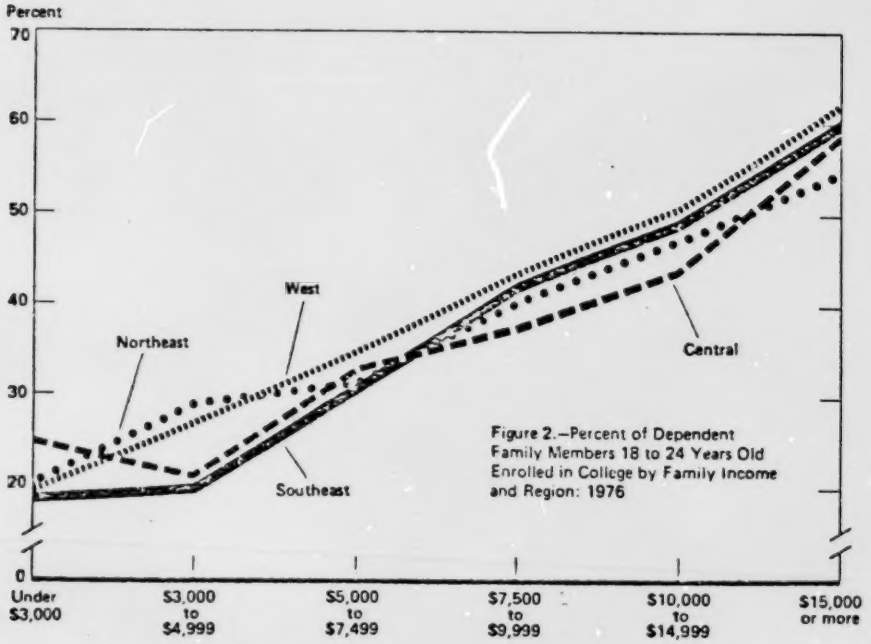

Figure 2.–Percent of Dependent Family Members 18 to 24 Years Old Enrolled in College by Family Income and Region: 1976